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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,730

08/09/2005

William R Blackwood

DC5018 PCT 1

6040

137 7590 01/10/2008
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EXAMINER

OJURONGBE, OLATUNDE S

ART UNIT

PAPER NUMBER

4145

NOTIFICATION DATE

DELIVERY MODE

01/10/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

Office Action Summary	Application No. 10/517,730	Applicant(s) BLACKWOOD ET AL.	
	Examiner OLATUNDE S. OJURONGBE	Art Unit 4145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20041208</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12082004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the following documents referred to therein have not been considered: GB 834,376 and JP 48013399A (Abstract).
2. The following documents were cited twice in the information disclosure statement filed in Paper 20041208: US 6,586,522 and US 5,258,458

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 4145

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita et al (US 4,985,286).

Regarding claims 1, 8 and 9, Kurita et al discloses a composition comprising (A) 100 parts by weight of at least one organosiloxane copolymer having a general formula (I) $R_1nSiO_{(4-n)/2}$, where each R_1 is independently chosen from a hydrogen atom or a monovalent hydrocarbon group comprising 1 to 10 carbon atoms, provided greater than 80 mole percent of R_1 are methyl groups, n is a value from 0.8 to 1.5, greater than 50 mole percent of the copolymer comprises $R_1SiO_{3/2}$ units, and having hydroxyl content (col.3, lines 55 – col.4, line 4 , col.10, lines 13 – 42 and col.12, lines 14-30); This occurs when a is zero and the hydroxyl content of the composition denoted by X is removed from the

formula and calculated as a weight percent; (B) 10 to 120 parts by weight of at least one polyorganosiloxane having a general formula (II)

$R_2R_3SiO(R_3SiO_{2/2})_a(R_3SiO_{3/2})_bSiR_3R_2$ where each R_2 is an independently chosen hydrogen atom, monovalent hydrocarbon group comprising 1 to 10 carbon atoms, hydroxy group, or alkoxy group, each R_3 is independently chosen from a hydrogen atom or a monovalent hydrocarbon group comprising 1 to 10 carbon atoms, a is an integer from 2 to 2000, and b is chosen such that $b/(a+b)$ is from 0 to 0.05 (col.4, lines 7-27, col.6, lines 26-62, col.14, lines 27 - 68) ; and (C) 0.01 to 7 parts by weight of at least one metal alkoxide per 100 parts by weight of component (A) (col. 8, lines 12—18).

Kurita et al discloses all of the claims limitations as set forth above, but the reference does not explicitly disclose the hydroxyl content weight percent range of the organosiloxane (A) nor the range of the parts by weight amount of the metal alkoxide. The hydroxyl content weight percent range of organosiloxane (A) or/and the parts by weight amount of the metal alkoxide are not considered to confer patentability to the claims. As the intensity of the odor given off by the by- product of the curing process and the rate at which the curing occurs are variables that can be modified, among others, by adjusting said hydroxyl content and parts by weight amount of the metal alkoxide, with said intensity of odor given off by the by- product of the process decreases while the rate of the reaction increases as the hydroxyl content of the organosiloxane and the parts by weight of the metal alkoxide are decreased and increased respectively, the precise hydroxyl content of organosiloxane (A) and the parts by weight amount of the metal alkoxide would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was

Art Unit: 4145

made. As such, without showing unexpected results, the hydroxyl content weight percent of organosiloxane (A) and the parts by weight amount of the metal alkoxide cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, hydroxyl content weight percent of organosiloxane (A) and the parts by weight amount of the metal alkoxide in the composition of Kurita et al to obtain the desired balance between the intensity of the odor given off by the by-product and the rate of the curing process (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding claim 2, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition where each R1 is independently chosen from alkyl groups comprising 1 to about 8 carbon atoms and n is a value from 1 to 1.5 (col. 9, line 60 – col.10, line 42 and col.12, lines 16 - 27). Taking the polyorganosiloxane R-1, as an example, a is zero, (a+b) which is n is 1, and the value of c is 0.62 which when excluded from the formula and calculated as weight percent is approximately 13.59%, substituting this values into the equation gives $\text{CH}_3\text{SiO}_{3/2}$ with 13.59% hydroxyl content weight percent.

Regarding claim 3, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition where each R1 is methyl, n is a value from 1 to 1.3, greater than 70 mole percent of the organosiloxane copolymer comprises $\text{R1SiO}_{3/2}$ units,

and the organosiloxane copolymer comprises essentially no $\text{SiO}_{4/2}$ units (col.9, line 60 – col.10, line 42 and col.12, lines 16 - 27).

Regarding claim 4, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition where each R_2 of component (B) is an independently chosen alkyl group comprising 1 to 8 carbon atoms (col.14, line 26 – col. 15, line 19).

Regarding claim 5, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition where R_2 is methyl (col.14, line 26 – col.15, line 19).

Regarding claim 6, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition where the metal alkoxide has the formula $\text{M}(\text{OR}_4)_4$, where M is titanium or zirconium and each R_4 is independently chosen from alkyl groups comprising 1 to 12 carbon atoms or hydroxylated alkyl groups comprising 1 to 12 carbon atoms and containing less than 4 hydroxyl groups (col.8, lines 16—18).

Regarding claim 7, Kurita et al discloses all the claim limitations as set forth above. Though Kurita et al did not disclose a specific range for the number of carbon atoms present in the alkyl groups of the titanium alkoxides (titanic acid esters), tetrabutyl titanate (a higher homologue with an alkyl group of 4 carbon atoms) was preferred over tetrapropyl titanate (a lower homologue with an alkyl group of 3 carbon atoms) for safety and health reasons (col.8, lines 19-22). Members of same homologous group have similar chemical properties and the boiling points increase down the group with higher members having higher boiling points than lower members, hence higher members are less volatile than lower members and are safer to handle during chemical reactions; However, the lesser the volatility of a compound, the less reactive the compound is; Taking this into

consideration, it would be obvious to one of ordinary skill in the art at the time the invention was made to substitute tetrabutyl titanate with a higher homologue of moderate volatility. To do so would amount to nothing more than to use a known compound for its intended use in a known environment to accomplish entirely expected result.

Regarding claims 10, 11 and 16, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition comprising 10 to 400 parts by weight per 100 parts by weight of component (A) of at least one carrier chosen from water, organic solvents, and silicone compounds (col.14, line 27- col.15, line 19).

Regarding claim 12, Kurita et al discloses all the claim limitations as set forth above and further discloses a composition comprising 40 to 200 parts by weight of component (D) per 100 parts by weight of component (A) (col 14 line 27 - col 15 line 19).

Regarding claims 13 and 17, Kurita et al discloses a method of preparing a composition comprising of mixing the components described therein. (A) 100 parts by weight of at least one organosiloxane copolymer having general formula (I) $R_1nSiO(4-n)/2$, where each R_1 is independently chosen from a hydrogen atom or a monovalent hydrocarbon group comprising 1 to 10 carbon atoms, provided greater than 80 mole percent of R_1 are methyl groups, n is a value from 0.8 to 1.5, greater than 50 mole percent of the copolymer comprises $R_1SiO_{3/2}$ units, and having hydroxyl content (B) 10 to 120 parts by weight of at least one polyorganosiloxane having a general formula $R_2R_3SiO(R_3SiO_{2/2})_a(R_3SiO_{3/2})_bSiR_3R_2$ where each R_2 is an independently chosen hydrogen atom, monovalent hydrocarbon group comprising 1 to 10 carbon atoms, hydroxy group, or alkoxy group, each R_3 is independently chosen from a hydrogen atom

or a monovalent hydrocarbon group comprising 1 to 10 carbon atoms, a is an integer from 2 to 2000. and b is chosen such that $b/(a+b)$ is from 0 to 0.05; and (C) 0.01 to 7 parts by weight per 100 parts by weight of component (A) of at least one metal alkoxide; the composition further comprises at least one carrier chosen from water, organic solvents and silicone compounds (col.12, lines 33 - 42 and col.14, line 27 – col.15, line 18).

Regarding claims 14 and 18, Kurita et al discloses all the claim limitations as set forth above and further discloses a method for treating substrates comprising applying the composition to a substrate (col.12, lines 52—53).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita et al (US 4,985,286) as applied to claim 1 above in view of Amidaiji et al (US 6,451, 437)

Regarding claim 15, Kurita et al discloses all the claim limitations as set forth above. Additionally the reference discloses a method for treating a glass substrate (abstract), but does not however disclose the method for treating substrates, where the substrate is chosen from leather, wood, textile fabrics, fibers, and masonry.

Amidaiji et al discloses a curable composition comprising an organosiloxane copolymer having hydroxyl content (col.2, lines 51-53) at least one polyorganosiloxane (col.11, lines 30 - 61) and a titanate catalyst (col.15 lines 9-22).

Amidaiji et al further discloses a method of treating glass fiber with the curable composition. (col.28, lines 66-67).

Since Kurita et al discloses the treatment of glass substrate and Amidaiji et al discloses the treatment of glass fiber with an analogous composition, as set forth above, it

Art Unit: 4145

would have been obvious to one of ordinary skill in the art at the time the invention was made to treat glass fiber with the composition disclosed by Kurita et al while utilizing the method of treatment disclosed by Amidaiji et al. To do so would amount to nothing more than to use of a known compound for its intended use in a known environment to accomplish entirely expected result.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272 1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O.

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 4145